

**REGULATION 8
ORGANIC COMPOUNDS
RULE 53
YEAST MANUFACTURING**

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**REGULATION 8
ORGANIC COMPOUNDS
RULE 53
YEAST MANUFACTURING**

(Adopted [date])

8-53-100 GENERAL

8-53-101 Description: The purpose of this rule is to limit the emission of precursor organic compounds from fermentation processes at nutritional yeast manufacturers.

8-53-200 DEFINITIONS

8-53-201 Total Carbon: As defined in Section 8-2-202.

8-53-202 Fermenter: Fermentation reactor or vessel used to grow yeast.

8-53-203 Stock Fermenter: A vessel in which yeast and nutrients are aerated to produce stock yeast for a first generation fermenter. This first stage may also be referred to as Seed or CB4.

8-53-204 First Generation Fermenter: A vessel in which yeast and nutrients are aerated to produce yeast for a trade fermenter. This second stage may also be referred to as Semi-Seed or CB5.

8-53-205 Trade Fermenter: A vessel in which yeast and nutrients are aerated to produce liquid yeast to be processed for sale. This third stage may also be referred to as Commercial or CB6.

8-53-206 Key System Operating Parameter: An operating parameter, such as temperature, flow rate or pressure, that ensures operation of the process or abatement equipment within manufacturer specifications and compliance with the standards in Sections 8-53-301.

8-53-207 Yeast Production Weight: Mass of liquid yeast at 32% solid.

8-53-300 STANDARDS

8-53-301 Emission Concentration Limit, Fermenters: Effective February 1, 2004, a person shall not operate a fermenter that discharges into the atmosphere any emission containing a concentration of more than 75 PPM total carbon (averaged over one clock hour) on a dry basis.

8-53-400 ADMINISTRATIVE REQUIREMENTS

8-53-401 Compliance Schedule: Any person subject to the requirements of Section 8-53-301 of this rule shall comply with the following increments of progress:

401.1 By July 1, 2003: Submit a status report to the APCO stating the options under consideration for retrofitting or replacing existing fermenters.

401.2 By September 1, 2003: Submit a completed application for any Authority to Construct necessary to comply with these requirements.

401.3 By February 1, 2004: Be in full compliance with all requirements of this Rule.

8-53-500 MONITORING AND RECORDS

8-53-501 Emission Monitor System: Any person operating a fermenter shall conduct the following monitoring:

501.1 Continuous measurement, using flame ionization detectors (FID), and recording of TOC in the fermenter exhaust.

501.2 Continuous measurement and recording of key system operating parameters.

501.3 Compliance emission testing shall be conducted at least once every 12 months.

8-53-502 Recordkeeping Requirements: Any person operating a fermenter shall keep the following records.

- 502.1 Data from required VOC flame ionization detectors.
- 502.2 Data from required key system operating parameter monitors.
- 502.3 Daily details of all routine and non-routine maintenance performed on all control devices and monitoring equipment including dates and duration of any outages.
- 502.4 Daily summary of each batch, including: fermenter used, batch type (stock, first generation, trade), batch start time, batch finish time.
- 502.5 The pounds of liquid yeast produced each year for each yeast variety.
- 502.6 The total pounds of liquid yeast produced each year.

8-53-503 Monitoring and Recordkeeping Procedures: Persons responsible for monitors pursuant to this Rule shall comply with the following:

- 503.1 Key system operating parameters shall be identified by the operator and submitted to the APCO for approval.
- 503.2 Plans and specifications for monitor selection and placement shall be submitted to the APCO for prior approval.
- 503.3 The operator shall comply with the procedures of Regulation 1 Section 523.
- 503.4 A report summarizing monitoring data shall be submitted quarterly in a format specified by the APCO. Reports shall be submitted within 30 days of the close of the six-month period.
- 503.5 Records shall be maintained for a period of at least five years and shall be made available to the APCO on request. They shall include:
 - 5.1 Occurrence and duration of any startup, shutdown or malfunction.
 - 5.2 Tests, calibrations, adjustments and maintenance.
 - 5.3 Emission measurements.
 - 5.4 Any other monitoring or report required by this Rule.

8-53-600 MANUAL OF PROCEDURES

8-53-601 Determination of Emissions: Emissions of volatile organic compounds shall be determined as follows:

- 601.1 Emissions of total organic compounds as specified in section 8-53-301 shall be measured as prescribed in the Manual of Procedures, Volume IV, ST-7.